

From the:
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To:

Baldwins
PO Box 5999
Wellesley Street
Auckland
NEW ZEALAND

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PCT

NOTIFICATION OF TRANSMITTAL OF
INTERNATIONAL PRELIMINARY
REPORT ON PATENTABILITY
(Chapter II of the Patent Cooperation Treaty)

(PCT Rule 71.1)

Date of mailing - 5 SEP 2005
(day/month/year)

Applicant's or agent's file reference
WJ504966-142

IMPORTANT NOTIFICATION

International application No.
PCT/NZ2004/000141

International filing date (day/month/year)
2 July 2004

Priority date (day/month/year)
2 July 2003

Applicant

EATON POWER QUALITY LIMITED et al

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary report on patentability and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translations to those Offices.
4. **REMINDER**

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices)(Article 39(1))(see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary report on patentability. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the *PCT Applicant's Guide*.

The applicant's attention is drawn to Article 33(5), which provides that the criteria of novelty, inventive step and industrial applicability described in Article 33(2) to (4) merely serve the purposes of international preliminary examination and that "any Contracting State may apply additional or different criteria for the purposes of deciding whether, in that State, the claimed invention is patentable or not" (see also Article 27(5)). Such additional criteria may relate, for example, to exemptions from patentability, requirements for enabling disclosure, clarity and support for the claims.

Name and mailing address of the IPEA/AU

AUSTRALIAN PATENT OFFICE
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In a further aspect the invention provides apparatus for providing a float charge to a VRLA battery, including a processing unit programmed to monitor the battery voltage during a selected discharge period for the battery, and determine a float charge to be applied to the battery dependant on the change in battery voltage over the selected period.

In a further aspect the invention provides apparatus for providing a float charge to a VRLA cell, including a processing unit programmed to determine the peak Tafel equivalent resistance for the cell and determine a voltage to be applied to the cell electrodes dependent on the determined equivalent resistance to provide the float charge.

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18. A method as claimed in claim 17 including simulating a dual value capacitance in relation to a positive cell electrode and simulating a dual value capacitance in relation to a negative cell electrode.
19. Apparatus for providing a float charge to a VRLA battery, including a processing unit programmed to monitor the battery voltage during a selected discharge period for the battery, and determine a float charge to be applied to the battery dependent on the change in battery voltage over the selected period.
20. Apparatus for providing a float charge to a VRLA cell, including a processing unit programmed to determine the peak Tafel equivalent resistance for the cell and determine a voltage to be applied to the cell electrodes dependent on the determined equivalent resistance to provide the float charge.

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PATENT COOPERATION TREATY
PCT
INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
(Chapter II of the Patent Cooperation Treaty)
(PCT Article 36 and Rule 70)

Applicant's or agent's file reference WJ504966-142	FOR FURTHER ACTION	See Form PCT/IPEA/416
International application No. PCT/NZ2004/000141	International filing date (<i>day/month/year</i>) 2 July 2004	Priority date (<i>day/month/year</i>) 2 July 2003
International Patent Classification (IPC) or national classification and IPC Int. Cl.⁷ H01M 10/48; H02J 7/00		
Applicant EATON POWER QUALITY LIMITED et al		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 4 sheets, including this cover sheet.
3. This report is also accompanied by ANNEXES, comprising:
 - a. ☒ (*sent to the applicant and to the International Bureau*) a total of 2 sheets, as follows:
 - ☒ sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).
 - ☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.
 - b. ☐ (*sent to the International Bureau only*) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or table related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:

- | | | |
|-------------------------------------|--------------|---|
| <input checked="" type="checkbox"/> | Box No. I | Basis of the report |
| <input type="checkbox"/> | Box No. II | Priority |
| <input type="checkbox"/> | Box No. III | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability |
| <input type="checkbox"/> | Box No. IV | Lack of unity of invention |
| <input checked="" type="checkbox"/> | Box No. V | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input checked="" type="checkbox"/> | Box No. VI | Certain documents cited |
| <input type="checkbox"/> | Box No. VII | Certain defects in the international application |
| <input type="checkbox"/> | Box No. VIII | Certain observations on the international application |

Date of submission of the demand 5 January 2005	Date of completion of the report 29 August 2005
Name and mailing address of the IPEA/AU AUSTRALIAN PATENT OFFICE PO BOX 200, WODEN ACT 2606, AUSTRALIA E-mail address: pct@ipaustalia.gov.au Facsimile No. (02) 6285 3929	Authorized Officer MR KIM WELLENS Telephone No. (02) 6283 2162

Box No. I **Basis of the report**

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1 (b))
 - ☐ publication of the international application (under Rule 12.4)
 - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the elements of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):
- ☐ the international application as originally filed/furnished
- ☒ the description:
- pages 1- 5, 6- 22 as originally filed/furnished
 - pages* 5a received by this Authority on 15 August 2005 with the letter of 9 August 2005
 - pages* received by this Authority on with the letter of
- ☒ the claims:
- pages 23- 24 as originally filed/furnished
 - pages* as amended (together with any statement) under Article 19
 - pages* 25 received by this Authority on 15 August 2005 with the letter of 9 August 2005
 - pages* received by this Authority on with the letter of
- ☒ the drawings:
- pages 1- 10 as originally filed/furnished
 - pages* received by this Authority on with the letter of
 - pages* received by this Authority on with the letter of
- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing.
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages
 - ☐ the claims, Nos.
 - ☐ the drawings, sheets/figs
 - ☐ the sequence listing (*specify*):
 - ☐ any table(s) related to the sequence listing (*specify*):
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages
 - ☐ the claims, Nos.
 - ☐ the drawings, sheets/figs
 - ☐ the sequence listing (*specify*):
 - ☐ any table(s) related to the sequence listing (*specify*):

* If item 4 applies, some or all of those sheets may be marked "superseded."

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**1. Statement**

Novelty (N)	Claims 1- 20	YES
	Claims -	NO
Inventive step (IS)	Claims 1- 20	YES
	Claims -	NO
Industrial applicability (IA)	Claims 1- 20	YES
	Claims -	NO

2. Citations and explanations (Rule 70.7)

D1- US 6532425 B1 (Boost et al.), 11 March 2003

D2- US 2002/0060555 A1 (Finger), 23 May 2002

D3- US 5250904 (Salander et al.), 5 October 1993

D4- Derwent Abstract Accession No. 2001-123577/14 Class S01, CN 1145536 A (Tian J), 19 March 1997

Novelty (N) and Inventive Step (IS) claims 1- 20

The current application relates to methods of, and apparatus for optimising a float charge for a Valve Regulated Lead Acid (VRLA) battery. None of the documents disclose optimising the float charge by determining the parameters associated with the float charge, by the methods disclosed in the current specification. Consequently claims 1- 20 are novel and involve an inventive step.

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/NZ2004/000141

Box No. VI Certain documents cited

1. Certain published documents (Rule 70.10)

<u>Application No.</u> <u>Patent No.</u>	<u>Publication date</u> <u>(day/month/year)</u>	<u>Filing date</u> <u>(day/month/year)</u>	<u>Priority date (valid claim)</u> <u>(day/month/year)</u>
P, X US 2003/0210056	13 November 2003	13 May 2003	13 May 2002

This document discloses all of the features of claims 1- 9
See paragraphs 10, 14, 16, 21- 55, 78- 170; Claims 5- 15; Figs 1- 13.

2. Non-written disclosures (Rule 70.9)

Kind of non-written disclosureDate of non-written disclosure
(day/month/year)Date of written disclosure
referring to non-written disclosure
(day/month/year)